



February 7, 2020

Mr. Lane Kidd  
Managing Director  
The Alliance for Driver Safety and Security

Dear Lane,

This document contains our completed analysis exploring whether minority ethnic groups are disparately impacted by the use of hair drug testing. Researchers were independently provided with paired urine and hair pre-employment drug screen results from three (3) commercial trucking companies for the years 2017-2019. This data was used to ascertain compliance with the Four-Fifths Rule and to perform chi-square difference tests, which assess whether significant differences exist between ethnic groups within each testing method. Our analyses examine all data provided from 2017-2019 and also 2018 in isolation.

Given a margin of error = 1%, and a confidence level = 99%, a sample size of 16,641 is required to generalize results across the broader U.S. truck driver population. We obtained sample sizes ranging from  $n = 73,176$  to  $n = 38,900$ . These sample sizes greatly exceed that which is necessary to generalize our results Nationally.

Results for each test in each sample met the required Four-Fifths Rule threshold, which indicates equal treatment of ethnic groups for both testing methods. Chi-square results indicate ethnic groups are significantly different irrespective of testing procedure. Factors other than testing method seem to underly ethnic group pass/fail rate differences. Given these findings, we were unable to identify evidence of disparate impact among ethnic groups resulting from the use of hair tests.

Please contact me should you have any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Doug Voss".

Doug Voss, Ph.D.

cc.

Dr. Joe Cangelosi